ALLEN BIAGGI, *Administrator*

(775) 687-4670

Administration
Facsimile 687-5856

Water Quality Planning
Water Pollution Control
Facsimile 687-4684

Mining Regulations & Reclamation
Facsimile 684-5259

State of Nevada
KENNY C. GUINN
Governor

R. MICHAEL TURNIPSEED,
Director

Air Pollution Control
Air Quality Planning
Facsimile 687-6396

Waste Management
Federal Facilities

Corrective Actions
Facsimile 687-8335

NDEP.nv.gov

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL PROTECTION

333 W. Nye Lane, Room 138
Carson City, Nevada 89706

March 17, 2004

Carl Gertz
Assistant Manager for Environmental Management
National Nuclear Security Administration
Nevada Site Office
P.O. Box 98518
Las Vegas, NV 89193-8518

RE: Project Shoal Risk-Based End State Vision, Draft Version 2, February 1, 2004
Central Nevada Test Area Risk-Based End State Vision, Draft Version 2, February 1, 2004

The Nevada Division of Environmental Protection, Bureau of Federal Facilities (NDEP) staff reviewed the Nevada Off-Sites Risk-Based End State Vision Documents: *Project Shoal Risk-Based End State Vision, Draft Version 2, February 1, 2004* and *Central Nevada Test Area Risk-Based End State Vision, Draft Version 2, February 1, 2004* for Corrective Action Units (CAUs) 447, Project Shoal Area, and 443, Central Nevada Test Area. NDEP agrees with the general concepts and plans presented in these documents. There are, however, inconsistencies within the documents that need to be corrected. NDEP's comments are provided below.

General Comments on the Central Nevada Test Area Risk-Based End State Vision

In the executive summary, the document stated, "The approval of the model led to the next step in the *Federal Facility Agreement and Consent Order* closure strategy: the calculation of a compliance boundary. This boundary has been calculated and will be presented for regulator approval in the Corrective Action Decision Document, which is scheduled to be submitted in the summer of 2004." There appears to be a typographical error in this statement. The contaminant boundary will be calculated based on the numerical model and subsequently presented for regulator approval in the Corrective Action Decision Document, not the compliance boundary. The compliance boundary is a result of negotiation between the DOE and NDEP (see next comment).

In the executive summary, the document stated, "The compliance boundary will be the result of negotiation between the DOE and NDEP, considering the contaminant boundary." Based on the process flow diagram dictionary for the Underground Test Area corrective action units in Appendix VI, Section 3, of the FFACO, the accepted contaminant boundary and other considerations will form the basis for a negotiated compliance boundary.

In the Introduction, the document stated, "The DOE assumes monitoring will be performed for 100 years…." However, in sections 1.2 and 3.2 respectively, the document stated, "The DOE will continue to manage the subsurface in perpetuity." and "Subsurface use restrictions in the vicinity of CNTA will remain in place in perpetuity." The document needs to clearly state that, if necessary, monitoring will continue beyond 100 years.

In section 2.2, the document stated that two monitoring wells existed within the CNTA and one spring and four wells existed in the vicinity of CNTA. Later in this same section a reference was made to "…two springs and seven wells surrounding the CNTA site." EPA's Annual Water Sampling and Analysis report for calendar year 2002 shows two monitoring wells within the CNTA and two springs and six wells in the vicinity of CNTA on the list of sampling points for the Long Term Hydrologic Monitoring Program. This inconsistency needs to be corrected. In addition, a map showing these current sampling points should be included in this document.

In section 3.1, the document stated, "Each of these features in all three areas received a clean closure with no further action, using various remediation approaches including clean up, excavation, covering, and/or posting." Also, in Section 4.0, the document stated, "All surface areas have received clean closure." This is not true. The term "clean

closure" implies that all contaminants have been removed from the site. Posting a site is not "clean closure."

In section 3.2, the document indicated that no water rights had been filed with the BLM. In Nevada, water rights are filed with the Nevada Division of Water Resources.

In section 3.3 in several places on page 21, the reference "Johnston, 2003a" is used. The reference cites a personal communication between two Stoller-Navarro employees. It would be more correct and appropriate to cite the original document for definition of how the legal ownership is defined or how the land is to be used. Similarly the reference Johnston 2003b is a personal communication and does not seem to be useful in a document of this nature.

In reference to long-term stewardship, the executive summary of the document stated, "This stewardship will entail continued monitoring of the groundwater quality in and near the CNTA, as well as maintaining subsurface drilling restrictions and exclusion zones sufficient to isolate contamination from potential receptors." The exclusion zones will be simulated using models that contain considerable uncertainty in their initial assumptions and input parameters over a 1000-year period. Due to the dynamic characteristics of natural systems, long-term monitoring needs to include more than groundwater quality. Monitoring needs to include items that, if changed, could change the model-simulated exclusion zone (e.g., physical parameters such as groundwater levels and faulting; precipitation and recharge; land use and demographics). NDEP agrees with the comment stated in section 1.3 of the document: "Post-closure monitoring will be conducted as agreed upon in the site closure reports for the subsurface."

Section 4.0 stated, "No subsurface characterization has been performed at this site." This is not true. The document needs to indicate that subsurface characterization was performed in the past and was used to form the basis for the model simulations.

Section 4.2 stated, "Two groundwater monitoring wells are positioned down gradient from the Faultless test location to intercept migration of radionuclides, should it occur." The document needs to include the well names and the distances these wells were drilled down gradient from the test and also include them on a map. This is a point of confusion, however, for anyone who reads the CNTA groundwater flow and contaminant transport and contaminant boundaries reports. These reports show that migration, if any, of contaminants will be to the north and would, therefore, make these wells up gradient of the test cavity. The document should clarify the expected contaminant migration pathways.

The document needs to address the emplacement holes and other miscellaneous drill holes (e.g., instrument holes, hydrologic monitoring holes, miscellaneous holes) at both UC-3 and UC-4. The disposition of these CASs needs to be included. Holes that will no longer be used for long-term monitoring must be abandoned properly. The Nevada Division of Water Resources regulations should be addressed and NDEP notified when the work is completed.

General Comments on the Shoal Site Risk-Based End State Vision

In the executive summary and in section 1.3 and in section 3.1, the document stated, "The compliance boundary will be the result of negotiation between the DOE and NDEP, considering the contaminant boundary." Based on the process flow diagram dictionary for the Underground Test Area corrective action units in Appendix VI, Section 3, of the FFACO, the accepted contaminant boundary and other considerations will form the basis for a negotiated compliance boundary.

In the executive summary, the document refers to "U.S. Navy Auxiliary Air Station at Fallon, Nevada." Is this the correct current name for this DoD facility?

In section 1.3, the document stated, "The DOE assumes monitoring will be performed for 100 years…." As with the CNTA, subsurface use restrictions in the vicinity of the PSA will remain in place in perpetuity. The document needs to clearly state that, if necessary, monitoring will continue beyond 100 years. NDEP agrees with the comment stated in section 1.3 of the document: "Post-closure monitoring will be conducted as agreed upon in the site closure reports for the subsurface."

In section 1.3, the document stated, "As part of the Long-Term Hydrological Monitoring Program (LTHMP), the U.S. Environmental Protection Agency (EPA) monitors water quality in wells and springs in the vicinity of the Project Shoal Site on an annual basis." EPA's Annual Water Sampling and Analysis report for calendar year 2002 shows fourteen wells (and no springs) within the PSA or the vicinity of the PSA on the list of sampling points for the Long Term Hydrologic Monitoring Program. These LTHMP current sampling points need to be included on a map in this document.

In section 2.2 in several places on page 9, the reference "Johnston, 2003a" and "Johnston 2003b" is used. The references cite a personal communication between two Stoller-Navarro employees. It would be more correct and appropriate to cite the original

document for definition of how the legal ownership is defined or how the land is to be used.

In section 4.0, the document stated, "The only remaining hazards at the Project Shoal Site are the nuclear cavity and groundwater at the SGZ (Map 4.0b)." Map 4.0b is titled the site wide hazard map end state but it is not clear just what hazards are being depicted. Wells HC-4, HC-5, HC-6, HC-7, and HC-8 are not hazards and their associated sumps and infiltration basin no longer exist. If the text in the document is correct, only the subsurface area at the SGZ is relevant.

Address any questions regarding this matter to either Don Elle at (702) 486-2874 or me at (702) 486-2857.

Sincerely,

Terre Maize
Chief
Bureau of Federal Facilities

TAM/DRE/EN/MS

cc: Ken Hoar, Director, ES&HD, NNSA/NSO
Eric Shanholtz, Chief, DTRA
Patti Hall, EM, NNSA/ NSO
Frank Di Sanza, WMD, NNSA/ NSO
Wayne Griffin, BN/DTRA
Tiffany Lantow, DTRA/TDTON
Monica Sanchez, ERD, NNSA/NSO
Peter Sanders, ERD, NNSA/NSO
Robert Bangerter, ERD, NNSA/NSO